

## SYSTEM AND METHOD FOR DETECTING AN OBJECT

## ABSTRACT

**[0048]** A system and method for ascertaining the identity of an object within an enclosed article. The system includes an acquisition subsystem utilizing a stationary radiation source and detector, a reconstruction subsystem, a computer-aided detection (CAD) subsystem, and a 2D/3D visualization subsystem. The detector may be an energy discriminating detector. The acquisition subsystem communicates view data to the reconstruction subsystem, which reconstructs it into image data and communicates it to the CAD subsystem. The CAD subsystem analyzes the image data to ascertain whether it contains any area of interest. Any such area of interest data is sent to the reconstruction subsystem for further reconstruction, using more rigorous algorithms and further analyzed by the CAD subsystem. Other information, such as risk variables or trace chemical detection information may be communicated to the CAD subsystem to be included in its analysis.